MONTHLY WEATHER REVIEW.

Editor: Prof. CLEVELAND ABBE.

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INTRODUCTION.

The REVIEW for August, 1896, is based on 2,746 reports from stations occupied by regular and voluntary observers, classified as follows: 149 from Weather Bureau stations; 33 from U. S. Army post surgeons; 2,421 from voluntary observers; 33 from Canadian stations; 1 from Hawaii; 96 received through the Southern Pacific Railway Company; 14 from U. S. Life-Saving stations. International simultaneous observations are received from a few stations and used together with trustworthy newspaper extracts and special reports.

The WEATHER REVIEW is prepared under the general editorial supervision of Prof. Cleveland Abbe. Unless otherwise specifically noted, the text is written by the Editor, but the statistical tables are furnished by Mr. A. J. Henry, Chief of the Division of Records and Meteorological Data. Special acknowledgment is made of the hearty cooperation of Prof. R. F. Stupart, Director of the Meteorological Service of the Dominion of Canada, Mr. Curtis J. Lyons, Meteorologist to the Government Survey, Honolulu, and of Dr. Mariano Bárcena, Director of the Central Meteorological Observatory of Mexico.

CLIMATOLOGY OF THE MONTH.

GENERAL CHARACTERISTICS.

The pressure has been rather high on both the Atlantic and Pacific coasts. The mean temperature was much above normal in the Gulf States and the interior valley; the highest mean temperatures and the highest maximum temperatures on record for August were reported from many stations in those regions and from some stations in New England and on the Pacific Coast. The lowest minimum temperatures for August were also reported at a few stations. The rainfall was below the normal in the Atlantic and Gulf States, many stations reporting the least on record for August; it was above normal in the Pacific Coast States, where most stations reported the largest rainfalls on record for August.

ATMOSPHERIC PRESSURE.

[In inches and hundredths.]

The distribution of mean atmospheric pressure reduced to sea level, as shown by mercurial barometers, not reduced to standard gravity, and as determined from observations taken daily at 8 a. m. and 8 p. m. (seventy-fifth meridian time), is shown by isobars on Chart IV. That portion of the reduction to standard gravity that depends on latitude is shown by the numbers printed on the right-hand border.

The *mean pressures* during the current month were highest in the South Atlantic States. They were lowest in Arizona. The highest were: Charleston, 30.11; Lynchburg, Savannah, Jupiter, Tampa, and Mobile, 30.09; Parkersburg, Wilmington, Atlanta, Jacksonville, Key West, New Orleans, and Galveston, 30.08. The lowest were: Prince Albert, 29.81; Yuma, 29.83; Phœnix, 29.87; Port Arthur and Miles City, 29.88; Winnipeg and Fresno, 29.89.

As compared with the normal for August, the mean pressure was in excess at all stations except a small portion of the upper Lake Region. The greatest excesses were: Helena, 0.11; Edmonston, 0.10; Charleston and Galveston, 0.09; Halifax, Tampa, Mobile, New Orleans, and San Diego, 0.08. The greatest deficits were: Marquette, 0.06; Port Arthur, 0.05; Sault Ste. Marie, 0.04; Duluth, 0.03.

As compared with the preceding month of July, the pressures, reduced to sea level, show a rise in California and the Plateau Region, the lower Lakes, Middle States, and New England; pressures fell in the upper Lake Region and the South Atlantic States. The greatest rises were: Chatham and Charlottetown, 0.08; Sacramento and Red Bluff, 0.07; Sydney, Father Point, Eastport, Point Reyes Light, and Fresno, 0.06. The greatest falls were: Bermuda, 0.15; Jacksonville, 0.07; Hatteras, Wilmington, Jupiter, Tampa, 0.06; Kittyhawk, Charleston, Savannah, Atlanta, Montgomery, and Winnipeg, 0.05.

AREAS OF HIGH AND LOW PRESSURE.

By Prof. H. A. HAZEN.

During the month there were six areas of high pressure and ten of low pressure sufficiently well defined to be charted, and their trajectories will be found on Charts II and I. In addition there is given the position of each area twice each day, at 8 a. m. and 8 p. m., and the observed pressure nearest to the center. It should be noted that in the region of over 1,000 feet elevation in Canada the locations of all centers and the pressures are not homogeneous with respect to those in the United States, for the reason that in Canada the observed a. m. and p. m. temperatures are used in reducing the pressure to sea level, and this introduces an abnormal diurnal variation in the reduced pressure. For example, at Calgary (3,400 feet), a difference of 30° between a. m. and p. m. will introduce a variation of 0.19 inch in the reduction. On several days during the present month there seemed to be high areas in this region in the morning, which, however, entirely disappeared in the afternoon. Three of the high areas seemed to originate in the region of permanent high pressure, at this season off the north Pacific Coast. No. I originated in South